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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,763	10/05/2001	Koji Suzuki	110596	1925
25944	7590	12/17/2003	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			KEBEDE, BROOK	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/970,763

Applicant(s)

SUZUKI, KOJI

Examiner

Brook Kebede

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13, 14 and 18 is/are allowed.
- 6) ☒ Claim(s) 10-12, 15-17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claim 1-9 drawn to an invention nonelected with traverse in the response filed on April 10, 2003. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10-12 and 15-17, 19, 20 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

*The rejection that was mailed on June 23, 2003 is maintained and repeated herein below as of record.*

Although an attempt has been made to identify all instances of claim language non-complacence, such identification is extremely burdensome due to the large number of instances. Examples are provided herein below. Since such noncompliance confuses the claims to the extent that not all of the problems are ready apparent, then upon amendment, if an alternative interpretation of claim language requires a change in the rejection, the new rejection may properly made final.

Claim 10 recites the limitation " monitoring the bias voltage and **a ground current** that flows from the plasma to the inner wall of the chamber to produce a control signal" in lines 10-11.

Since there is not support for the "ground current" in the preceding limitations, and there is insufficient antecedent basis for this limitation in the claim. In addition, the claim lacks clarity because it is confusing that how the "ground current" is formed.

Claim 15 recites the limitation "monitoring the bias voltage and **a ground current** that flows from the plasma to the inner wall; and when the bias voltage is outside of a first selected range and **the ground current** is outside of a second selected range, changing the first electric power" in lines 12-15.

Since there is not support for the "ground current" in the preceding limitations, and there is insufficient antecedent basis for this limitation in the claim. In addition, the claim lacks clarity because it is confusing that how the "ground current" is formed.

Claim 19 recites the limitation "wherein the monitoring monitors the amount of the reaction products by monitoring the bias voltage and **a ground current** that flows from the plasma to the inner wall" in lines 1-3.

Since there is not support for the "ground current" in the preceding limitations, and there is insufficient antecedent basis for this limitation in the claim. In addition, the claim lacks clarity because it is confusing that how the "ground current" is formed.

Claim 21 recites the limitation "depositing reaction products on the inner wall of the chamber; and **measuring a ground current** that flows from the plasma to the inner wall of the chamber on which **the reaction products are deposited**" in lines 6-8.

Since there is not support for the “reaction products” in the preceding limitations, and there is insufficient antecedent basis for this limitation in the claim. In addition, the claim lacks clarity because it is confusing that how the “reaction products” are formed since only single gas is utilized to from plasma.

Claims 11, 12, 16, 17, and 20 are also rejected as being dependent of the rejected independent base claim.

Applicant's cooperation is requested in reviewing the claims structure to ensure proper claim construction and to correct any subsequently discovered instances of claim language noncompliance. See *Morton International Inc.*, 28USPQ2d 1190, 1195 (CAFC, 1993).

***Allowable Subject Matter***

4. Claim 13, 14, 18 are allowed over prior art of record
5. Claims 19 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. Claims 10, 15 and 21 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
7. Claims 11, 12, 19, and 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

8. Applicant's arguments filed on September 15 2003 have been fully considered but they are not persuasive.

With respect to claims rejection under 35 U.S.C. § 112 second paragraph, Applicant argued that one ordinary skill in the art would understand that the ground current flows from high potential (i.e., the plasma) to a ground potential (i.e., the inner wall of the chamber). The formation of this ground current described in the specification on page 2, lines 13-28, page 7, lines 8-29 and page 8, lines 11-32 ...”

In response to the applicant’s argument, the Examiner respectfully submits that such an argument is not commensurate with the scope of the claims, in particular, as stated above. In addition the Examiner respectfully disagrees with the applicant’s contention “one ordinary skill in the art would understand that the ground current” because the rejection is not based of enablement it is based of the claim structure.

For example claim 10 recites the limitation “10. A method for processing a surface of a substrate, comprising; holding the substrate on a substrate holder in a chamber, the chamber including an inner wall; generating a plasma by supplying first electromagnetic waves with a first electric power to a gas atmosphere within the chamber; applying a bias voltage to the substrate by supplying second electromagnetic waves with a second electric power to the substrate holder so that the surface of the substrate is processed by charged species in the plasma accelerated by the bias voltage; **monitoring the bias voltage and a ground current that flows from the plasma to the inner wall of the chamber to produce a control signal;** and controlling the first electric power using the control signal.”

As recited in claim 10 above, the claim establishes a proper antecedent basis for **monitoring the bias voltage** in line 6 (i.e., applying a bias voltage). However, the claim does not establish base of **monitoring a ground current** because there is no proper antecedent

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established for the recited claim. In addition, wither it is known by ordinary skill in the art or not the recited claim must establish a proper antecedent basis as required by 35 U.S.C. § 112 second paragraph on can not guess the ground current may be there or may not. Furthermore, after reviewing the specification on page 2, lines 13-28, page 7, lines 8-29 and page 8, lines 11-32, as pointed out by the applicant, there is not clear disclosure that support how the ground current formed.

Therefore, the rejection under 35 U.S.C. § 112 second paragraph is still deemed proper.

#### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

#### ***Correspondence***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (703) 306-4511. The examiner can normally be reached on 8-5 Monday to Friday.

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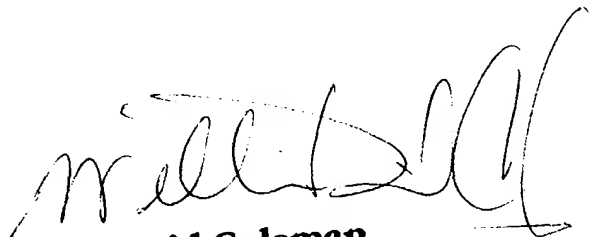
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. **After February 4, 2004, the Examiner should be contacted at (571) 272-1862.** The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Brook Kebede

*BK*  
December 13, 2003



**W. David Coleman**  
**Primary Examiner**